

DESCRIPTION (provided by applicant): The goals of the proposed training program are to recruit and train outstanding young graduate students, and prepare them for productive careers in science. The "Molecular and Cellular Biology at Dartmouth" Training Program includes trainers from the majority of the faculty in Dartmouth's largest life science graduate program, the Molecular and Cellular Biology (MCB) Graduate Program. The MCB Graduate Program is an interdepartmental, interdisciplinary program consisting of 56 tenured or tenure-track faculty members and 104 students. Research areas include biotechnology, cell biology, computational biology, developmental biology, immunology, molecular pathogenesis, neurobiology, regulation of gene expression, signal transduction and cellular metabolism, and structural biology. The MCB Graduate Program is interdepartmental, consisting of students and faculty from the Departments of Biological Sciences and Chemistry at Dartmouth College; the Departments of Biochemistry, Genetics, Microbiology & Immunology, Medicine, Physiology, Pediatrics, and Pathology at Dartmouth Medical School, and the Thayer School of Engineering. The MCB Graduate Program was created in 1995 via the fusion of two existing graduate programs, the Biology Graduate Program at Dartmouth College and the Biochemistry Graduate Program at Dartmouth Medical School. Although the combined MCB Graduate Program is relatively new, many of the trainers have a long and established training record. The "Molecular and Cellular Biology at Dartmouth" Training Program includes 41 of the 56 MCB Graduate Program Faculty, who were selected based on the strength of their research programs, their commitment to training predoctoral students, and their willingness to participate in the training program. Trainees must satisfy the MCB Graduate Program requirements for the Ph.D., which include three research rotations, a two-term core course, four elective courses, one term of teaching, participation in journal clubs and seminars, a qualifying exam, a yearly research in progress presentation, and a thesis defense. In addition "Molecular and Cellular Biology at Dartmouth" trainees are required to take the "Ethical and Responsible Conduct in Research" course. The MCB Graduate Program regularly matriculates an average of 20 students/year. New efforts to recruit underrepresented minority students were implemented in the last year of the previous funding period.